

## CLAIMS

### WHAT IS CLAIMED IS:

1. A pharmaceutical composition comprising as an active ingredient at least one olanzapine polymorph selected from Form III olanzapine, Form IV olanzapine, Form V olanzapine, and salts and mixtures thereof; and

one or more pharmaceutically acceptable carriers, excipients or diluents;

wherein Forms III, IV and V olanzapine are olanzapine polymorphs having typical x-ray powder diffraction patterns represented by the following interplanar spacings:

<b>FORM-III</b>	<b>FORM-IV</b>	<b>FORM IV</b>
<b>d-spacing (Å)</b>	<b>d-spacing (Å)</b>	<b>d-spacing (Å)</b>
10.3156	9.9487	10.5932
7.1713	8.5074	10.2170
6.5014	8.2103	9.9503
5.5165	4.8172	8.5259
4.8541	4.7114	7.1016
4.5578	4.6122	6.0731
4.4938	4.5282	5.2041
4.4536	4.2340	4.9856
4.2588	4.0901	4.8153
3.9898	3.7574	4.7514
3.7288	3.6989	4.5302
3.5626		4.4714
3.0262		4.2271
		4.1307
		3.9880
		3.7763
		3.7167
		3.5315.

2. The pharmaceutical composition according to claim 1, wherein the olanzapine polymorph is Form III olanzapine.

3. The pharmaceutical composition according to claim 2, wherein the Form III olanzapine is further characterized by substantially the following x-ray powder diffraction pattern, wherein d represents the interplanar spacing and I/I<sub>1</sub> represents the typical relative intensities:

d-spacing (Å)	I/I <sub>1</sub>
10.3156	100
7.1713	16
6.5014	17
5.5165	24
4.8541	46
4.5578	24
4.4938	38
4.4536	36
4.2588	49
3.9898	52
3.7288	42
3.5626	25
3.0262	18.

4. The pharmaceutical composition according to claim 2, wherein the Form III olanzapine is further characterized by having an infrared spectrum having absorbances at the following wavenumbers:

611  
656  
671  
746  
765  
845  
935

5. The pharmaceutical composition according to claim 1, wherein the olanzapine polymorph is Form IV olanzapine.

6. The pharmaceutical composition according to claim 5, wherein the Form IV olanzapine is further characterized by substantially the following x-ray powder diffraction pattern, wherein d represents the interplanar spacing and  $I/I_1$  represents the typical relative intensities:

d-spacing (Å)	$I/I_1$
9.9487	83
8.5074	15
8.2103	17
4.8172	100
4.7114	41
4.6122	35
4.5282	33
4.2340	29
4.0901	32
3.7574	23
3.6989	40.

7. The pharmaceutical composition according to claim 5, wherein the Form IV olanzapine is further characterized by having an infrared spectrum having absorbances at the following wavenumbers:

604  
661  
758  
904  
931  
1365  
1456.

8. The pharmaceutical composition according to claim 1, wherein the olanzapine polymorph is Form V olanzapine.

9. The pharmaceutical composition according to claim 8, wherein the Form V olanzapine is further characterized by substantially the following x-ray powder diffraction pattern, wherein d represents the interplanar spacing and I/I<sub>1</sub> represents the typical relative intensities:

d-spacing (Å)	I/I <sub>1</sub>
10.5932	17
10.2170	100
9.9503	57
8.5259	22
7.1016	17
6.0731	17
5.2041	19
4.9856	20
4.8153	62
4.7514	34
4.5302	24
4.4714	51
4.2271	91
4.1307	40
3.9880	31
3.7763	10
3.7167	62
3.5315	22.

10. The pharmaceutical composition according to claim 8, wherein the Form V olanzapine is further characterized by having an infrared spectrum having absorbances at the following wavenumbers:

604

671  
746  
758  
847  
928  
1357  
1369.

11. A pharmaceutical composition containing as an active ingredient at least one olanzapine polymorph selected from Form III olanzapine, Form IV olanzapine, Form V olanzapine, and salts and mixtures thereof;

wherein Forms III, IV and V olanzapine are olanzapine polymorphs having typical x-ray powder diffraction patterns represented by the following interplanar spacings:

<b>FORM-III</b>	<b>FORM-IV</b>	<b>FORM IV</b>
<b>d-spacing (Å)</b>	<b>d-spacing (Å)</b>	<b>d-spacing (Å)</b>
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4.4536	4.2340	4.9856
4.2588	4.0901	4.8153
3.9898	3.7574	4.7514
3.7288	3.6989	4.5302
3.5626		4.4714
3.0262		4.2271
		4.1307

		3.9880
		3.7763
		3.7167
		3.5315.

12. A method of treating a patient having a psychotic condition, mild anxiety or gastrointestinal condition comprising administering a therapeutically effective amount of at least one olanzapine polymorph to said patient;

wherein the at least one olanzapine polymorph is selected from Form III olanzapine, Form IV olanzapine, Form V olanzapine, and salts and mixtures thereof; and

wherein Forms III, IV and V olanzapine are olanzapine polymorphs having typical x-ray powder diffraction patterns represented by the following interplanar spacings:

<b>FORM-III</b>	<b>FORM-IV</b>	<b>FORM IV</b>
<b>d-spacing (Å)</b>	<b>d-spacing (Å)</b>	<b>d-spacing (Å)</b>
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3.5626		4.4714
3.0262		4.2271
		4.1307
		3.9880
		3.7763

		3.7167
		3.5315.

13. The method according to claim 12, wherein the olanzapine polymorph is Form III olanzapine.

14. The method according to claim 12, wherein the olanzapine polymorph is Form IV olanzapine.

15. The method according to claim 12, wherein the olanzapine polymorph is Form V olanzapine.

16. A method of treating a patient having a psychotic condition selected from schizophrenia and related disorders, acute mania, Bipolar I Disorder, psychotic mood disorder and psychosis associated with Alzheimer's disease comprising administering a therapeutically effective amount of at least one olanzapine polymorph to said patient;

wherein the at least one olanzapine polymorph is selected from Form III olanzapine, Form IV olanzapine, Form V olanzapine, and salts and mixtures thereof; and

wherein Forms III, IV and V olanzapine are olanzapine polymorphs having typical x-ray powder diffraction patterns represented by the following interplanar spacings:

<b>FORM-III</b>	<b>FORM-IV</b>	<b>FORM IV</b>
<b>d-spacing (Å)</b>	<b>d-spacing (Å)</b>	<b>d-spacing (Å)</b>
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4.4938	4.5282	5.2041

4.4536	4.2340	4.9856
4.2588	4.0901	4.8153
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3.5626		4.4714
3.0262		4.2271
		4.1307
		3.9880
		3.7763
		3.7167
		3.5315.

17. The method according to claim 16, wherein the olanzapine polymorph is Form III olanzapine.

18. The method according to claim 16, wherein the olanzapine polymorph is Form IV olanzapine.

19. The method according to claim 16, wherein the olanzapine polymorph is Form V olanzapine.